Key Themes and Highlights From the National Healthcare Quality Report

This is the second annual National Healthcare Quality Report (NHQR). This second report extends the baseline established in the 2003 report for a set of health care quality measures across four dimensions of quality—effectiveness, safety, timeliness, and patient centeredness—and, within the effectiveness component, nine clinical condition areas or care settings—cancer, diabetes, end stage renal disease, heart disease, HIV/AIDS, maternal and child health, mental health, respiratory diseases, and nursing home and home health care.

The 2004 NHQR is based on detailed analyses of 179 measures. The purpose of the report is to track the state of health care quality for the Nation on an annual basis. It is, in terms of the number of measures and number of dimensions of quality, the most extensive ongoing examination of quality of care ever undertaken in the United States or any major industrialized country worldwide.

The first report found that high quality health care is not yet a universal reality and that opportunities for preventive care are often missed, particularly opportunities in the management of chronic diseases in America. The second report finds evidence both that health care quality is improving and that major improvements can be made in specific areas as well.

As a result of the analysis of the 2004 NHQR data, three key themes emerge. These themes are relevant to policymakers, clinicians, health system administrators, community leaders, and all who seek to use the information in the report to improve health care services for all Americans:

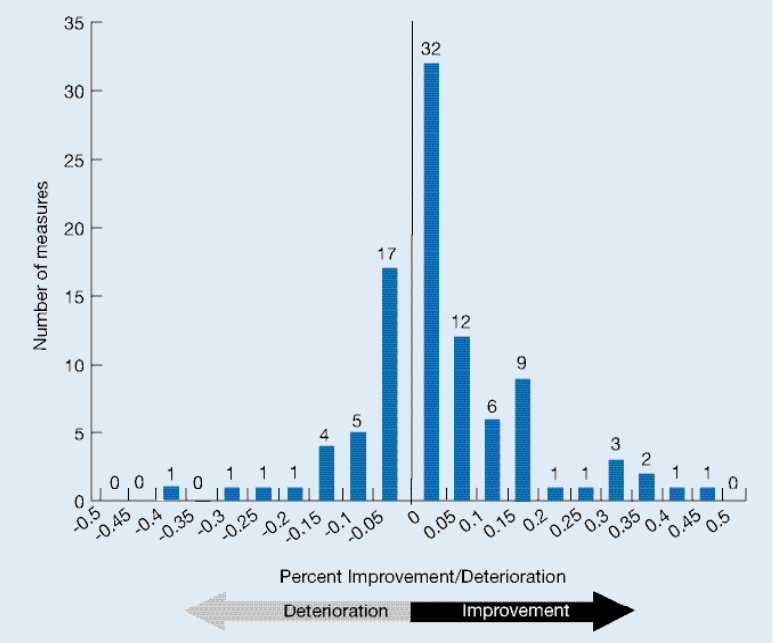
- Quality is improving in many areas, but change takes time.
- The gap between the best possible care and actual care remains large.
- Further improvement in health care is possible.

Quality Is Improving in Many Areas, But Change Takes Time

Health care quality was largely unchanged between the 2003 report and the 2004 report. However, in many areas of health care delivery, improvements were seen in specific measures[i]:

- Out of 98 measures with trend data,[ii] most measures have shown some improvement. Overall, over twice as many measures have improved (67) as have deteriorated (30). One measure showed no change.
- Twelve measures improved between 5% and 10% and 15 measures improved between 10% and 20% (Figure H.1).
- Across the 98 measures, health care quality improved by a median value of 2.8% between data for the reference year shown in the 2003 report and data for the latest year shown in the 2004 report.[iii]
- Major change takes time in national quality measurement. Half of the 98 measures with trend data show modest (between -5% and +5%) or no change.

Figure H.1. Number of measures that have deteriorated or improved, 2003 NHQR vs. 2004 NHQR



Note: The category 0-0.05 includes 1 measure which showed no change.

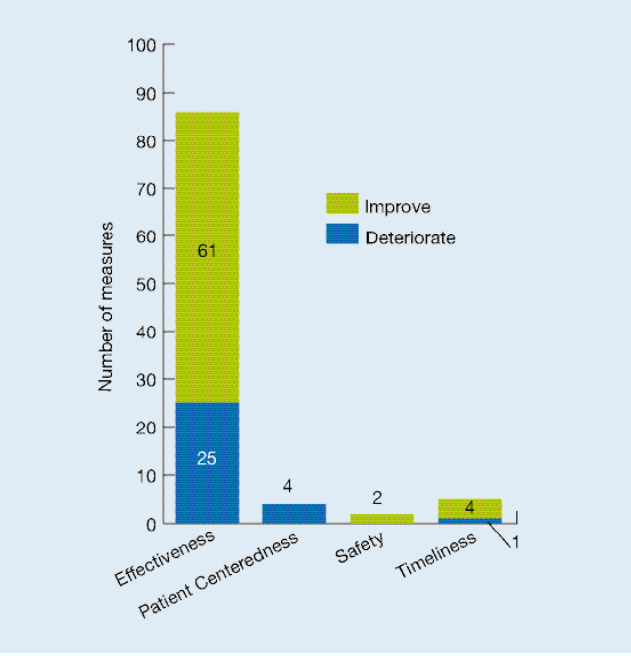
[i]The representation of measure change in Figure H.1 tracks absolute change in these measures where trend data are available. The chart shows the full distribution of "change" in quality within the measure set; no statistical restrictions were used in judging the level of change. Information on statistical testing done for measures in other chapters of this report is presented in Chapter 1. This approach is consistent with measure summary approaches used in the *Healthy People 2000 Final Review*.[1] New methodologies are proposed for measuring progress in HP2010[2] and developmental work on summary measures is underway at AHRQ. Future reports will reflect new approaches to the reporting of summary measures as they become available.

[ii]This includes measures in all of the four dimensions of quality (effectiveness, safety, timeliness, and patient centeredness). However, because of measure specification changes, only two measures of safety are included in this trend analysis. In addition, trend data for one HIV measure and one heart disease measure have been excluded from this analysis because of data changes over time.

[iii]Percent improvement is computed as the median change across all 98 measures for which trend data are available. Median change was computed by taking the percent change from the 2003 NHQR data to the 2004 NHQR data and taking the median value for the 98 measures with trend data.

- The accumulation of multiple years of data will allow future reports to present a more accurate picture of the national direction in health care quality, as trends for shorter periods of time are difficult to interpret.
- Most trend measures are in the effectiveness areas. Although positive change occurred throughout the measure set, most of the changes were seen in effectiveness (Figure H.2).
- Levels of change in performance in the measures with trend data varied somewhat across care settings. Of the 98 measures with trend data, 90 measures could be mapped to care settings.[iv]
  - For the 49 measures of ambulatory care quality, performance improved by a median change of 1.4%.
  - For the 24 measures of hospital care quality, performance improved with a median change of 5.4%.
  - For the 12 measures of home health care quality, performance was virtually unchanged with a median change of 3%.
  - For the 5 measures of nursing home quality, performance improved by a median change of 14.7%.

Figure H.2. Change in quality by health care component, 2003 NHQR vs. 2004 NHQR



Note: Excludes one overall measure.

[iv] Change is defined as the median average change across measures with trend data between the 2003 NHQR and 2004 NHQR. Detailed information on the exact measures included in these calculations is presented in the Summary Measures section of the Measure Specifications Appendix.

The Gap Between the Best Possible Care and Actual Care Remains Large

Although improvements have been made, quality problems exist in many clinical areas and many settings of care. Furthermore, quality of care remains highly variable across the country in ways that case mix and disease prevalence cannot explain. The report documents numerous gaps between actual and desirable quality, highlighting opportunities for improving the consistency with which health care is delivered.

- Some deterioration in selected measures was noted in almost all components of quality (e.g., effectiveness, timeliness, etc.) and almost all condition areas (e.g., cancer, diabetes, etc.).[v] The largest of these are:
  - An increase of 32% in the proportion of patients who left the Nation's emergency departments without being seen (National Hospital Ambulatory Medical Care Survey, 2000-2001).
  - A decrease of 20% in the proportion of elderly patients with pneumonia who received their initial antibiotic according to current clinical recommendations (Centers for Medicare & Medicaid Services, Quality Improvement Organization [CMS QIO] program, 2002).
  - An increase of 12% in the admission rate for short-term complications of diabetes (Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project [AHRQ, HCUP] Nationwide Inpatient Sample, 2001).
- Patients in the highest performing States are getting care at a level of quality many times higher than that of the lowest performing States. For example:
  - Nursing home residents were physically restrained at a rate over 9 times higher in the lowest performing State versus the highest performing State (CMS, 2003).
  - The proportion of elderly patients with pneumonia who received recommended pneumococcal screenings or vaccinations was over 7.5 times lower in the lowest performing State versus the highest performing State (CMS, QIO program, 2002).
  - The median time to critical thrombolytic therapy for heart attack patients was 6.6 times longer in the lowest performing State (2 hours and 20 minutes) versus the highest performing State (21 minutes) (CMS, QIO program, 2001).
- The report documents areas in which comprehensiveness of care is lacking:
  - Although 90% of persons with diabetes state that they had their hemoglobin A1c checked, only 32% state that they have received all five of the prevention tests recommended for long-term diabetes management[vi] (AHRQ, Medical Expenditure Panel Survey, 2001).

[v] Data years vary according to the data source. Additional detail is presented in the specific chapters and in the Tables Appendix.

[vi] The five prevention tests are receipt of hemoglobin A1c test, lipid profile, retinal eye exam, foot exam, and influenza vaccination.

- Although 80% of elderly hospitalized pneumonia patients get their blood cultured before getting antibiotics as recommended, only 30% get all the recommended interventions for elderly patients admitted with pneumonia[vii] (CMS, QIO program, 2001-2002).

Further Improvement in Health Care Is Possible

The 2003 report documented a limited set of best practices in each of the measurement areas that underscored the possibilities which exist for improvement. Although the 2004 report focuses on national performance rather than best practices, it is clear that there are lessons to be learned from improvement efforts that target specific, national consensus measures. Below are examples that offer lessons for improving care in areas in which major improvements in care have already been achieved.

- Major improvements were seen in specific measures in many areas of the measure set. The largest of these improvements are listed below.[viii]
  - A relative decrease of 37% in the percentage of nursing home patients who have moderate to severe pain (CMS, Minimum Data Set, 2002 to 2003).
  - A relative decrease of 34% in the hospital admission rate for uncontrolled diabetes (AHRQ, HCUP Nationwide Inpatient Sample, 1994 to 2001).
  - A relative decrease of 34% in the percentage of elderly patients who were given medications potentially inappropriate for the elderly (AHRQ, Medical Expenditure Panel Survey, 1996 to 2000).

It must be noted that improvement is the result of focused efforts. For example, as part of the CMS Nursing Home Quality Initiative (NHQI), Quality Improvement Organizations worked on targeted, intensive programs with a selected group of facilities. There was significantly greater improvement among facilities that participated in the intensive effort compared with those who did not, as follows:

- For chronic pain, a relative decline of 46% for the intensive group compared with a 33% decline in the non-intensive group.
- For postacute care pain, a relative decline of 17% for the intensive group compared with a 9% decline in the non-intensive group.
- For residents in physical restraints, a relative decline of 29% for the intensive group compared with a 17.6% decline among facilities in the non-intensive group.[ix]

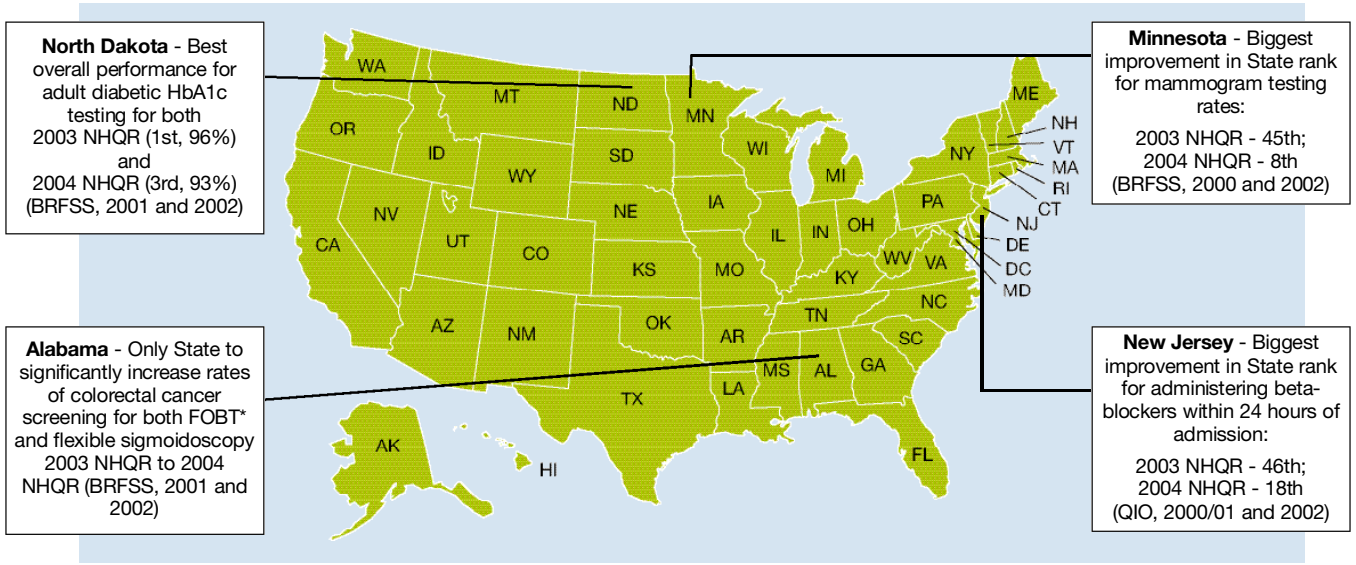
[vii] The recommended interventions tracked here are receipt of antibiotics within 4 hours of hospital arrival, recommended antibiotics consistent with current guidelines, and blood cultures before antibiotics are administered.

[viii] See the Tables Appendix for detailed data information.

[ix] These relative declines are the fourth quarter of 2003 relative to the second quarter of 2002 (CMS, Nursing Home Quality Initiative). More detail on the NHQI is presented in the Nursing Home and Home Health Care section of Chapter 2.

- Improvements by specific States were seen in a variety of areas across the country. While no State rates best or worst in every measure, some States made significant improvements in their performance between the 2003 report and the 2004 report. A selected number of notable improvements in NHQR measures for cancer and diabetes care by States are highlighted in Figure H.3. Data for all States on these measures are presented in the Tables Appendix.[x] Detailed examination of initiatives that may have brought about these improvements is beyond the scope of this report. However, such an examination is possible with the NHQR data and will be necessary to learn lessons from these improvements.

Figure H.3. Quality at the State level, 2003 NHQR vs. 2004 NHQR



* Colorectal cancer screening can be done using fecal occult blood testing (FOBT) or flexible sigmoidoscopy or colonoscopy or barium enema. The NHQR measure tracks FOBT and flexible sigmoidoscopy or colonoscopy.

Note: Depending on the measure, not all States may have been included in the analysis.

Looking Forward

The NHQR is the broadest examination of quality of health care, in terms of number of measures and number of dimensions of care, ever undertaken in the United States. The 2004 report documents progress versus the 2003 baseline in many areas, although the nature of national quality monitoring means that comprehensive change in health care quality is gradual.

Sustained data measurement is the foundation for sustained quality improvement. That is why the NHQR will continue to track all of the measures in its measure set in future reports. At the same time, AHRQ and its public and private sector colleagues will continue efforts to keep the measure set parsimonious yet robust and concurrent with the latest science. Broad quality monitoring can serve as the foundation for a national "scorecard" on the health care system as well as a potential evaluation system for public-sector, as well as private-sector, health care initiatives.

[x] Although the NHQR does not present detailed information on best practices, readers with interest in additional information on quality improvement and tools for improving care are encouraged to consult www.qualitytools.ahrq.gov. Information on the Behavioral Risk Factor Surveillance System (BRFSS) and QIO programs noted in Figure H.3 is presented in the Measure Specifications Appendix.

Improved data availability for tracking and improving health care quality is one of several potential results of an improved health information technology (HIT) infrastructure. Health information technology also has the potential to improve quality of care, reduce medical errors, and lower administrative costs. The Department of Health and Human Services has developed a strategy to accelerate the development of the Nation's health information infrastructure, including electronic health records and a new network to link health records nationwide to improve the quality of health care delivery in the Nation. Future versions of the report will benefit from this ongoing development of the Nation's HIT infrastructure.

However, high impact quality improvement is not achieved through broad, diffuse measurement initiatives but rather through focused assessment, rapid improvement initiatives, and targeting specific audiences.[3] For this reason, the NHQR will continue to evolve in future years to focus the report text on a set of high-impact "highlight" measures of health care quality while, at the same time, tracking the breadth of the measures in the measure set through the detailed data tables. The report will also serve as the basis for derivative products designed by AHRQ and its Departmental partners. These products will guide users of the report data to engender ongoing improvement in quality of health care for all Americans.

References

1.National Center for Health Statistics. Healthy People 2000 final review. Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2001. Report No. 01-0256. Available at: http://www.cdc.gov/nchs/data/hp2000/hp2k01.pdf. Accessed November 2, 2004.

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3.Lappe JM, Muhlestein JB, Lappe DL, et al. Improvements in 1-year cardiovascular clinical outcomes associated with a hospital-based discharge medication program. *Ann Intern Med* 2004;141(6):446-53. Available at: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=15381518.